HAL vs. Poole, 2001 –
Artificial Intelligence and Foreign Language Learning

Jan Stewart

This paper focuses on one small aspect of the film *2001: A Space Odyssey*, that is, a 30-second dialogue between a computer and a man. It relates the concepts of computer intelligence and computer emotions to foreign language learning by humans. The author concludes that no fewer than nine language functions are performed by the HAL 9000 computer, and that these are representative of human verbal behavior. As such, the talking computer portrayed in the *2001* film may serve as a model for foreign language students.

This paper was first published in the *Humanities Institute Bulletin* of Chikushi Women’s University / Junior College, No. 19 (September, 2008).
This monograph relates the concepts of computer intelligence and computer emotions to foreign language learning by humans. The discussion touches on two opposing theoretical approaches to Artificial Intelligence, one in favor of computer intelligence, the other against it. Alan Turing (1950) offered up philosophical “proof” that computers can think. On the other hand, John Searle’s (1980) Chinese Room analogy offered “proof” that computers cannot think. More recently, Umberto Eco (2003) discussed specific problems in translating from one language to another via a computer program. When translating back into the original language, the results are never the same as in the original. Eco observed that the task requires more than a simple knowledge of grammar. While most languages possess a larger number of meanings than words, machines are incapable of distinguishing among the multiple meanings of individual words.

The concept of computer emotions is much more difficult to grasp, as it carries a certain ambiguity. In order to clarify the issues, two opposing theoretical points of view are discussed, one of which disclaims the possibility of computer emotions; the other allows it. Daniel Goleman (1997) defined Emotional Intelligence in terms of self-awareness, altruism, empathy, and the ability to love, traits that are generally considered beyond the capacity of Artificial Intelligence. However, Joseph Ledoux (1996) argued that emotional states are not especially different from the processes that we call “thinking.” Marvin Minsky (2006), one of the pioneers in the field of Artificial Intelligence, summed up the current realities. He suggested that computers need to be programmed to find alternate ways to proceed when available channels of thinking fail. In other words, a computer that is programmed to emote will in fact be capable of emotions.

Finally, the issues of computer intelligence and computer emotions are related to the art of foreign language teaching. Using the example of the fictional HAL 9000 computer in Arthur C. Clarke’s novel, 2001: A Space Odyssey (1968), we see that it performs no fewer than nine language functions. These are representative of human verbal behavior, which can be emulated in the foreign language classroom. In conclusion, a teaching model based on comparison with Artificial Intelligence may lead us into the twenty-first century, no longer thinking in terms of Beginning, Intermediate, and Advanced levels, but rather, in terms of Thought, Emotion, and Wisdom.

This paper was presented at the International Conference on Social Science, Arts, Economy and Education, San Francisco, California, U.S.A. (August 5, 2016).